

## Case 3173

### *Phrynidium crucigerum* Lichtenstein & Martens, 1856 (currently *Atelopus cruciger*; Amphibia, Anura): proposed conservation of the specific name by the designation of a neotype

Stefan Lötters

*Institute of Zoology, University of Mainz, Saarstrasse 21, 55099 Mainz, Germany (e-mail: stefan@oekologie.biologie.uni-mainz.de)*

Enrique La Marca

*Laboratorio de Biogeografía, Facultad de Ciencias Forestales y Ambientales, Universidad de Los Andes, Apartado Postal 116, Mérida 5101-A, Venezuela (e-mail: lamarca57@cantv.net)*

**Abstract.** The purpose of this application is to conserve the usage of the specific name of *Atelopus cruciger* (Lichtenstein & Martens, 1856) for a harlequin frog from coastal Venezuela. The nominal species was originally based on material collected in Central America, but the name has been in use for a species from Venezuela. A lectotype designated by Lötters, Böhme & Günther (1998) made *A. cruciger* a junior subjective synonym of *A. varius* (Lichtenstein & Martens, 1856). A female specimen, ZSM 93/1947/10 in the Zoologische Staatssammlung, Munich, from coastal Venezuela is proposed as neotype of *A. cruciger* to conserve the usage of the name.

**Keywords.** Nomenclature; taxonomy; Amphibia; Anura; BUFONIDAE; *Atelopus cruciger*; *Atelopus varius*; Venezuela; Neotropics.

---

1. Lichtenstein & Martens (1856, p. 41) established the genus *Phrynidium* for two species of harlequin frogs *P. cruciger* and *P. varius* from material collected by the Polish botanist J. Warszewicz from 'Veragoa' (Veraguas, western Panama). The genus *Phrynidium* is currently regarded as a synonym of *Atelopus* Duméril & Bibron, 1841, family BUFONIDAE (see Frost, 1985, p. 29). Since Frost (1985) the name *A. varius* has been consistently used for Central American *Atelopus* (see Lötters, 1996, p. 52).

2. The first comprehensive description of *Atelopus* from coastal Venezuela was based on specimens at the Zoologische Staatssammlung, Munich, collected by C. Vogl (Müller, 1934, p. 146, who used the name *A. cruciger*). The name *A. cruciger*, with a few exceptions (e.g. Dunn, 1931, p. 395), has been consistently applied to specimens from coastal Venezuela because they usually bear a conspicuous dorsal cross pattern, thus matching one aspect of the poor original description of *A. cruciger* (e.g. Müller, 1934, p. 146). Rivero (1961, p. 173) suggested that the Panama type locality of *Phrynidium crucigerum* was an error due to confusion between three specimens in the Museum für Naturkunde, Berlin (which he cited as 'co-types' of *A. cruciger*, but giving the catalogue number 'ZMB 3387', an error for ZMB 3381), and

types of the leptodactylid frog *Eleutherodactylus gollmeri* Peters, 1863 described from 'Caracas', Venezuela. Specimens from Venezuela, currently called *A. cruciger*, possess well developed dorsal and lateral warts while the genus *Phrynidium* (described with its two originally included species *P. varium* and *P. crucigerum*) was defined to have smooth skin (Lichtenstein & Martens, 1856, p. 40). The original description of *P. crucigerum* is clearly not applicable to any Venezuelan species (Lötters, Böhme & Günther, 1998, p. 177).

3. A specimen, ZMB 3380, with a dorsal cross pattern, catalogued as *Atelopus varius* in the Museum für Naturkunde, Berlin, from 'Veragoa' (Veraguas, Panama) fits the original description of *Phrynidium crucigerum* and was considered by Lötters, Böhme & Günther (1998) to represent one of the original syntypes. It was designated as the lectotype of *P. crucigerum* by Lötters, Böhme & Günther (1998, p. 178) who noted that its exact place of origin in Central America was uncertain.

4. The name *Atelopus cruciger* has been widely used for the *Atelopus* from coastal Venezuela with a dorsal cross pattern in scientific publications dealing with different biological aspects (see Lötters, 1996, p. 22). Hence, it is not in the interest of stability to treat *A. cruciger* as a synonym of *A. varius* (as was done by Lötters, Böhme & Günther, 1998) which would require the description of the Venezuelan *Atelopus* as a new species.

5. We propose setting aside all previous type fixations and the designation of a neotype for *Phrynidium crucigerum* Lichtenstein & Martens, 1856 that is of known provenance and consistent with usage of the specific name. We therefore propose as neotype specimen ZSM 93/1947/10 in the Zoologische Staatssammlung, Munich, from the vicinity of Rancho Grande on the road from Maracay to Ocumare de la Costa (ca. 1000 m above sea level), Estado Aragua, Venezuela (col. Pater Cornelius Vogl, 11 November 1930). The specimen ZSM 93/1947/10 is a female having 39.7 mm snout-vent length, 18.5 mm tibia length, 10.0 mm head width at broadest, 4.7 mm distance from tip of finger I to outer edge of outer metacarpal tubercle. In dorsal view, snout pointed; upper jaw protrudes beyond lower; tympanic membrane, tympanic ring and ostia pharyngea absent; small rounded warts (in part conical) present on dorsolateral and lateral surfaces behind eye, continuing in a dorsolateral row, on posterior dorsum and dorsal surfaces of extremities. Foot webbing formula (following the system of Savage & Heyer, 1967, as modified by Myers & Duellman, 1982, p. 6) is  $\text{I0} - 1 - \text{III0} - 1^+ \text{III0}^+ - 2\text{IV}2 - 0 - \text{V}$ . Coloration in preservative is tan with dark brown dorsal marbling and the typical cross pattern from above the eye to the suprascapular region; laterally from snout to groin with a dark brown lateral band, from behind eye above bordered by tan conical warts.

6. The International Commission on Zoological Nomenclature is accordingly asked:

- (1) to use its plenary power to set aside all previous type fixations for the nominal species *Phrynidium crucigerum* Lichtenstein & Martens, 1856 and to designate the specimen ZSM 93/1947/10, Zoologische Staatssammlung, Munich, for which the data are given in para. 5 above, as the neotype;
- (2) to place on the Official List of Specific Names in Zoology the name *crucigerum* Lichtenstein & Martens, 1856, as published in the binomen *Phrynidium crucigerum* and as defined by the neotype designated in (1) above.

## References

- Dunn, E.R.** 1931. New frogs from Panama and Costa Rica. *Occasional Papers of the Boston Society of Natural History*, **5**: 385–401.
- Frost, D.R.** (Ed.). 1985. *Amphibian species of the world. A taxonomic and geographical reference*. v, 732 pp. Allen Press & the Association of Systematics Collections, Lawrence, Kansas.
- Lichtenstein, M.H.C. & Martens, E.** 1856. *Nomenclator reptilium et amphibiorum musei zoologici berolinensis*. 48 pp. Berlin.
- Lötters, S.** 1996. *The neotropical toad genus Atelopus*. 143 pp., 16 pls. Vences & Glaw, Köln.
- Lötters, S., Böhme, W. & Günther, R.** 1998. Notes on the type material of the neotropical harlequin frogs *Atelopus varius* (Lichtenstein & Martens, 1856) and *Atelopus cruciger* (Lichtenstein & Martens, 1856) deposited in the Museum für Naturkunde of Berlin (Anura, Bufonidae). *Mitteilungen aus dem Zoologischen Museum in Berlin*, **2**: 173–184.
- Müller, L.** 1934. Über eine neue Rasse von *Atelopus cruciger* (Licht. u. Marts) von Venezuela. *Zoologischer Anzeiger*, **108**: 145–155.
- Myers, C.W. & Duellman, W.E.** 1982. A new species of *Hyla* from Cerro Colorado, and other tree frog records and geographical notes from western Panama. *American Museum Novitates*, **2752**: 1–32.
- Rivero, J.A.** 1961. Salientia of Venezuela. *Bulletin of the Museum of Comparative Zoology, Harvard University*, **126**: 1–207.
- Savage, J.M. & Heyer, R.W.** 1967. Variation and distribution of the tree frog genus *Phyllomedusa* in Costa Rica, Central America. *Beiträge zur Neotropischen Fauna*, **5**: 111–131.

---

Comments on this case are invited for publication (subject to editing) in the *Bulletin*; they should be sent to the Executive Secretary, I.C.Z.N., c/o The Natural History Museum, Cromwell Road, London SW7 5BD, U.K. (e-mail: iczn@nhm.ac.uk).